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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,073	10/29/2003	Stephen Baumann	370028-00001	5939

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PITTSBURGH, PA 15219

EXAMINER

SAVAGE, JASON L

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,073

Applicant(s)

BAUMANN ET AL.

Examiner

Jason L. Savage

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10-29-03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20031114, 20031029.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-13, 15-26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuda et al (US 6,261,706).

Fukuda teaches a composite aluminum alloy structure such as a heat exchanger having excellent corrosion resistance (col. 2, ln. 51-64). Fukuda further teaches the structure comprises an aluminum core layer, a water-side liner in the form of a sacrificial anode cladding on one side of the core and a braze liner on the other side of the core (col. 2, ln. 65 – col. 3, ln. 13).

Regarding claim 1, Fukuda teaches the water-side liner comprise an aluminum alloy containing 0.01-0.8% Si, 1.5-8% Zn, 0% Cu, 0% Mn, 0.01-0.3% Fe, with the balance being Al (col. 4, ln. 5-12). Fukuda further teaches the water-sider line may comprise 0-2.5% Mg (col. 3, ln. 26-31).

Fukuda also teaches several examples, in particular, examples a4 and a5 in Table 2, which contain 0.4 % Si, 1.45% and 2.00% Mg respectively, 0.1% Fe, all of which fall within Applicant's claimed ranges for those elements. Examples a4 and a5 only contain 2.3% Zn as opposed to 2.5% in the claims; however, Fukuda exemplifies other embodiments such as a1 and a13 which have Zn in the claimed range. Since Fukuda teaches the same materials, similar ranges which overlap those of Applicant's

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and further exemplifies embodiments wherein the materials are added within the claimed range, the claims are anticipated by Fukuda

Regarding claims 2, 9, 11-12, 16-17, Fukuda teaches the core layer comprises 0.3-2.0% Mn, 0.25-1.0% Cu, 0.3-1.1% Si, 0.05-0.35% Ti and 0% Fe with the balance being aluminum (col. 3, ln. 1-5). Fukuda further teaches that the core may comprise 0.5% or less of Mg (col. 3, ln. 26-31).

Fukuda also teaches several examples, in particular, example a11 which comprises 1.2% Mn, 0.25% Mg, 0.5% Cu, 0.5% Si, 0.15% Ti and 0% Fe which anticipates the claim limitations.

Regarding claim 3, Fukuda teaches the braze is an Al-Si alloy (col. 3, ln. 1).

Regarding claim 5, 18-23 and 28, Fukuda's examples teach the liner contains the elements in amounts which anticipate all of recited elements with the exception of Si (see Examples a4, a5 and a13 in Table 2). However, Fukuda teaches that the Si content may be as low as 0.01% (col. 3, ln. 5-12). Therefore, it anticipates the claimed Si content between the range of 0.2-0.35%.

Regarding claim 6, Fukuda teaches the composite structure may be used as a heat exchanger (col. 2, ln. 51-64).

Regarding claims 7 and 25, Fukuda teaches the thickness of the water-side liner is between 10-20% and the thickness of the braze is 10% of the total thickness of the structure (col. 6, ln. 27-36).

Regarding claim 8, 24 and 26, Fukuda teaches the structure may be tubular shaped and that it may be joined to other structures by brazing (col. 1, ln. 10-18). The

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teaching about joining the structure is viewed as a teaching that the braze layer in the recited structure would be on the outside since it would be unlikely and undesirable to bond other structures to the interior of a heat exchanger.

Regarding claims 13 and 15, although the cited example A11 does not have Mn and Mg in the core layer within the claimed range, examples A10, A12 and example A13 teaches Mn contents of 1.0, 0.8% and a Mg content of 0.12% which anticipates the claim limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 14 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al (US 6,261,706).

Fukuda teaches what is set forth above but it is silent regarding the silicon content in the core being 0.28% or less. However, Fukuda does teach that the silicon content may be as low as 0.30% and further exemplifies an embodiment at this silicon concentration (col. 3, ln. 1-5 and Example A5 in Table 1). Given that Fukuda teaches concentrations of all of the other elements within the ranges claimed and that there is not a magnitude of difference between a Si content of 0.28% versus a Si content of 0.30% as taught by Fukuda, the Si content of 0.28% would have been obvious in view

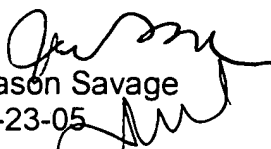
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of Fukuda. Specific claimed alloy, whose compositions are in such close proportions to those in the prior art that, prima facie one skilled in the art would have expected them to have the same properties, must be considered to have been obvious from known alloys, Titanium Metals Corporation of America V. Banner, 227 USPQ 773.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jason Savage
6-23-05

**JENNIFER MCNEIL
PRIMARY EXAMINER**